



SEQUENCE LISTING

<110> KYOWA HAKKO KOGYO CO., LTD.

<120> Protein-free medium adapted FUT8 knock out cells

<130> 11620W01

<140> 10/575,253

<141> 2006-04-10

<150> PCT/JP2004/015315

<151> 2004-10-08

<150> JP2003-350166

<151> 2003-10-09

<160> 32

<170> PatentIn Ver. 2.1

<210> 1

<211> 2008

<212> DNA

<213> *Cricetulus griseus*

<400> 1

aacagaaact tatttttctg tgtggctaac tagaaccaga gtacaatgtt tccaattctt 60  
tgagctccga gaagacagaa gggagttgaa actctgaaaa tgcgggcatg gactgggtcc 120  
tggcggttga ttatgctcat tctttttgcc tgggggacct tattgtttta tatagggtgg 180  
catttggttc gagataatga ccacctgac cattctagca gagaactctc caagattctt 240  
gcaaagctgg agcgcttaaa acaacaaaat gaagacttga ggagaatggc tgagtctctc 300  
cgaataccag aaggccctat tgatcagggg acagctacag gaagagtccg tgttttagaa 360  
gaacagcttg ttaaggccaa agaacagatt gaaaattaca agaaacaagc taggaatgat 420  
ctgggaaagg atcatgaaat cttaaggagg aggattgaaa atggagctaa agagctctgg 480  
ttttttctac aaagtgaatt gaagaaatta aagaaattag aaggaaacga actccaaaga 540  
catgcagatg aaattctttt ggatttagga catcatgaaa ggtctatcat gacagatcta 600  
tactacctca gtcaaacaga tggagcaggt gagtggcggg aaaaagaagc caaagatctg 660  
acagagctgg tccagcggag aataacatat ctgcagaatc ccaaggactg cagcaaagcc 720  
agaaagctgg tatgtaatat caacaaaggc tgtggctatg gatgtcaact ccatcatgtg 780  
gtttactgct tcatgattgc ttatggcacc cagcgaacac tcatcttgga atctcagaat 840  
tggcgctatg ctactggagg atgggagact gtgttttagac ctgtaagtga gacatgcaca 900

gacaggtctg gcctctccac tggacactgg tcaggtgaag tgaaggacaa aaatgttcaa 960  
gtggtcgagc tccccattgt agacagcctc catcctcgtc ctccttactt acccttgggt 1020  
gtaccagaag accttgcaga tcgactcctg agagtccatg gtgatcctgc agtgtggtgg 1080  
gtatcccagt ttgtcaaata cttgatccgt ccacaacctt ggctggaaag ggaaatagaa 1140  
gaaaccacca agaagcttgg cttcaaacat ccagttattg gagtccatgt cagacgcact 1200  
gacaaagtgg gaacagaagc agccttccat cccattgagg aatacatggt acacgttgaa 1260  
gaacattttc agcttctcga acgcagaatg aaagtggata aaaaaagagt gtatctggcc 1320  
actgatgacc cttctttgtt aaaggaggca aagacaaagt actccaatta tgaatttatt 1380  
agtgataact ctatttcttg gtcagctgga ctacacaacc gatacacaga aaattcactt 1440  
cggggcgtag tcttgatat acactttctc tcccaggctg acttccttgt gtgtactttt 1500  
tcatcccagg tctgtagggt tgcttatgaa atcatgcaaa cactgcatcc tgatgcctct 1560  
gcaaacttcc attctttaga tgacatctac tattttggag gccaaaatgc ccacaaccag 1620  
attgcagttt atcctcacca acctcgaact aaagaggaaa tccccatgga acctggagat 1680  
atcattggtg tggctggaaa ccattggaat ggttactcta aaggtgtcaa cagaaaacta 1740  
ggaaaaacag gcctgtaccc ttctacaaa gtccgagaga agatagaaac agtcaaatac 1800  
cctacatatc ctgaagctga aaaatagaga tggagtgtaa gagattaaca acagaattta 1860  
gttcagacca tctcagccaa gcagaagacc cagactaaca tatggttcat tgacagacat 1920  
gtcccgacc aagagcaagt gggaacctc agatgctgca ctggtggaac gcctctttgt 1980  
gaagggtctg tgtgcctca agcccatg 2008

<210> 2

<211> 1728

<212> DNA

<213> Mus musculus

<400> 2

atgcgggcat ggactggttc ctggcggttg attatgctca ttctttttgc ctgggggacc 60  
ttgttatttt atataggtgg tcatttgggt cgagataatg accaccctga tcaactccagc 120  
agagaactct ccaagattct tgcaaagctt gaacgcttaa aacagcaaaa tgaagacttg 180  
aggcgaatgg ctgagtctct ccgaatacca gaaggcccca ttgaccaggg gacagctaca 240  
ggaagagtcc gtgtttttaga agaacagctt gttaaggcca aagaacagat tgaaaattac 300  
aagaaacaag ctagaaatgg tctggggaag gatcatgaaa tcttaagaag gaggattgaa 360

aatggagcta aagagctctg gttttttcta caaagcgaac tgaagaaatt aaagcattta 420  
gaaggaaatg aactccaaag acatgcagat gaaattcttt tggatttagg acaccatgaa 480  
aggtctatca tgacagatct atactacctc agtcaaacag atggagcagg ggattggcgt 540  
gaaaaagagg ccaaagatct gacagagctg gtccagcgga gaataacata tctccagaat 600  
cctaaggact gcagcaaagc caggaagctg gtgtgtaaca tcaataaagg ctgtggctat 660  
ggttgtcaac tccatcacgt ggtctactgt ttcattgattg cttatggcac ccagcgaaca 720  
ctcatcttgg aatctcagaa ttggcgctat gctactgggtg gatgggagac tgtgtttaga 780  
cctgtaagtg agacatgtac agacagatct ggctctcca ctggacactg gtcagggtgaa 840  
gtaaatgaca aaaacattca agtggctgag ctccccattg tagacagcct ccatcctcgg 900  
cctccttact taccactggc tgttcagaa gaccttgcag accgactcct aagagtccat 960  
ggtgaccctg cagtgtgggtg ggtgtcccag tttgtcaaat acttgattcg tccacaacct 1020  
tggctggaaa aggaaataga agaagccacc aagaagcttg gcttcaaaca tccagttatt 1080  
ggagtccatg tcagacgcac agacaaagtg ggaacagaag cagccttcca ccccatcgag 1140  
gagtacatgg tacacgttga agaacatttt cagcttctcg cacgcagaat gcaagtggat 1200  
aaaaaaagag tatatctggc tactgatgat cctactttgt taaaggaggc aaagacaaag 1260  
tactccaatt atgaatttat tagtgataac tctatttctt ggtcagctgg actacacaat 1320  
cgggtacacag aaaattcact tcgggggtgtg atcctggata tacactttct ctcacaggct 1380  
gactttctag tgtgtacttt ttcattcccag gtctgtcggg ttgcttatga aatcatgcaa 1440  
accctgcac ctgatgcctc tgcgaacttc cattctttgg atgacatcta ctattttgga 1500  
ggccaaaatg cccacaatca gattgctggt taccctcaca aacctcgaac tgaagaggaa 1560  
attccaatgg aacctggaga tatcattgggt gtggctggaa accattggga tggttattct 1620  
aaaggatatca acagaaaact tggaaaaaca ggcttatatc cctcctacaa agtccgagag 1680  
aagatagaaa cagtcaagta tcccacatat cctgaagctg aaaaatag 1728

<210> 3

<211> 3677

<212> DNA

<213> Homo sapiens iGenBank Accession # FNM\_178156 j

<400> 3

cgttttagtac agaaatctca tgggagagag catccatgca tttaaaatt gttattgaat 60

tattttattg aatgatgaca cccaaactga gctagaacat aattctggct ctgctagtac 120

atctttctgtg tgatcttggg caagtcactc tacttttctt tcaattttct tttctcacag 180  
ggagataatc ataaaaacga ctgtaaagta cagcacttca tagagtgtt tttgtttaaa 240  
gagctgacaa taaatacgag tctcaaggtc taggaaagcc tccctcacia cctgagctgc 300  
ttgaggacaa gggattttct tttgaatcag cagtacctta tttgtgtatc tgtgatagag 360  
ttcttgggtac ataagaaggc ctcaataaat atgtgaattt atgaatatta ggcagattgc 420  
aaccttgaca ggcactgcc tcttaaactc cttttctgtg atcttttaat atttaacatc 480  
taaaaggccg ccgctacttg ctttgggata agtatccccg gtatgtactt taaaatgccc 540  
aagcctagag aaatgattct tgtcttaagg gcaccatttc gctctccac cgtaaagcgc 600  
cccaggcttg ggatctgggt cccaaggcta cagggaagag tttggaacgg gaagctcatc 660  
ttccggccct ctgattggcc ggctcgact ccactcacgc ggcgcgcagc tctgattggc 720  
ctcggcggca cccctcgctc cgcgactact ttgtgtgtgt gggcggcgcg ctccggctct 780  
cccgtcagc tggcgggtctg ggctgctctg gggcagccct tcggctccact gctctgcac 840  
gcgggcgcgc ggaattttcc gagtccgagc ggcattgtag gcgcattgaag tacaggacaa 900  
taaagcttcc tacacatata accaggagga tctctttgaa agattcactg caggactacc 960  
agagagaata atttgtctga agcatcatgt gttgaaacaa cagaagtcta ttcacctgtg 1020  
cactaactag aaacagagtt acaatgtttt caattctttg agctccagga ctccagggaa 1080  
gtgagttgaa aatctgaaaa tgcggccatg gactgggttc tggcggttga ttatgctcat 1140  
tctttttgcc tgggggacct tgctgtttta tatagggtgt cacttgggtac gagataatga 1200  
ccatctgat cactctagcc gagaactgtc caagattctg gcaaagcttg aacgcttaaa 1260  
acaacagaat gaagacttga ggcgaatggc cgaatctctc cggataccag aaggccctat 1320  
tgatcagggg ccagctatag gaagagtacg cgtttttagaa gagcagcttg ttaaggccaa 1380  
agaacagatt gaaaattaca agaaacagac cagaaatggc ctggggaagg atcatgaaat 1440  
cctgaggagg aggattgaaa atggagctaa agagctctgg tttttctac agagtgaatt 1500  
gaagaaatta aagaacttag aaggaaatga actccaaaga catgcagatg aatttctttt 1560  
ggatttagga catcatgaaa ggtctataat gacggatcta tactacctca gtcagacaga 1620  
tggagcaggt gattggcggg aaaaagaggc caaagatctg acagaactgg ttcagcggag 1680  
aataacatat cttcagaatc ccaaggactg cagcaaagcc aaaaagctgg tgtgtaatat 1740  
caacaaaggc tgtggctatg gctgtcagct ccatcatgtg gtctactgct tcatgattgc 1800

atatggcacc cagcgaacac tcattcttga atctcagaat tggcgctatg ctactggtgg 1860  
atgggagact gtatttaggc ctgtaagtga gacatgcaca gacagatctg gcatctccac 1920  
tggacactgg tcaggtgaag tgaaggacaa aaatgttcaa gtggctcgagc ttcccattgt 1980  
agacagtctt catccccgtc ctccatattt acccttgggt gtaccagaag acctcgaga 2040  
tcgacttgta cgagtgcag gtgacctgc agtgtggtgg gtgtctcagt ttgtcaaata 2100  
cttgatccgc ccacagcctt ggctagaaaa agaaatagaa gaagccacca agaagcttgg 2160  
cttcaaacat ccagttattg gagtccatgt cagacgcaca gacaaagtgg gaacagaagc 2220  
tgccttccat ccattgaag agtacatggt gcatgttgaa gaacattttc agcttcttgc 2280  
acgcagaatg caagtggaca aaaaaagagt gtatttggcc acagatgacc cttctttatt 2340  
aaaggaggca aaaacaaagt accccaatta tgaatttatt agtgataact ctatttcctg 2400  
gtcagctgga ctgcacaatc gatacacaga aaattcactt cgtggagtga tcctggatat 2460  
acattttctc tctcaggcag acttcctagt gtgtactttt tcatcccagg tctgtcgagt 2520  
tgcttatgaa attatgcaaa cactacatcc tgatgcctct gcaaacttcc attctttaga 2580  
tgacatctac tattttgggg gccagaatgc ccacaatcaa attgccattt atgctcacca 2640  
accccgaaact gcagatgaaa ttcccatgga acctggagat atcattggtg tggctggaaa 2700  
tcattgggat ggctattcta aaggtgtcaa caggaaattg ggaaggacgg gcctatatcc 2760  
ctcctacaaa gttcgagaga agatagaaac ggtcaagtac ccacatatc ctgaggctga 2820  
gaaataaagc tcagatggaa gagataaacg accaaactca gttcgaccaa actcagttca 2880  
aaccatttca gccaaactgt agatgaagag ggctctgac taacaaaata aggttatatg 2940  
agtagatact ctcagcacca agagcagctg ggaactgaca taggcttcaa ttggtggaat 3000  
tcctctttta caagggctgc aatgccctca taccatgca cagtacaata atgtactcac 3060  
atataacatg caaacagggt gttttctact ttgccccctt cagtatgtcc ccataagaca 3120  
aacactgcca tattgtgtaa ttttaagtgc acagacattt tgtgtgagac ttaaaacatg 3180  
gtgcctatat ctgagagacc tgtgtgaact attgagaaga tcggaacagc tccttactct 3240  
gaggaagttg attcttattt gatggtggtt ttgtgaccac tgaattcact ccagtcaaca 3300  
gattcagaat gagaatggac gtttgggttt tttttgtttt tgtttttgtt ttttccttta 3360  
taaggttgtc tgtttttttt tttttaaata attgcatcag ttcattgacc tcatcattaa 3420  
taagtgaaga atacatcaga aaataaaata ttcactctcc attagaaaat tttgtaaaac 3480  
aatgccatga acaaattctt tagtactcaa tgtttctgga cattctcttt gataacaaaa 3540

aataaatttt aaaaaggaat ttgttaaagt ttctagaatt ttatatcatt ggatgatatg 3600  
ttgatcagcc ttatgtggaa gaactgtgat aaaaagagga gctttttagt ttttcagctt 3660  
aaaaaaaaa aaaaaaa 3677

<210> 4  
<211> 1836  
<212> DNA  
<213> Sus scrofa iGenBank Accession # FD86723.1 j

<400> 4  
atgttttcaa ttctttgagc tctaggaagc cacgaaagtg agttgaaagt ctgaaaatgc 60  
ggccatggac tggttcgtgg cgttggatta tgctcattct ttttgcttg gggaccttgc 120  
tattttacat aggtggtcac ttggtacgag ataatgacca ctctgatcac tctagccgag 180  
aactgtccaa gattttggca aagctggaac gcttaaaaca acaaaatgaa gacttgagga 240  
gaatggctga atctctccga ataccagaag gccccattga tcagggggcca gcttcaggaa 300  
gagttcgtgc tttagaagag caatttatga aggccaaaga acagattgaa aattataaga 360  
aacaactaa aaatgggtcca gggaaggatc atgaaatcct aaggaggagg attgaaaatg 420  
gagctaaaga gctctggttt tttctacaaa gtgagttgaa gaaattaaag aatttagaag 480  
gaaatgaact ccaaagacat gcagatgaat ttctatcaga tttgggacat catgaaaggt 540  
ctataatgac ggatctatac tacctcagtc aaacagatgg ggcaggtgat tggcgtgaaa 600  
aggaggccaa agatctgaca gagctgggtcc agcggagaat aacatatctt cagaatccca 660  
aggactgcag caaagccaag aagctagtgt gtaatatcaa caaaggctgt ggctatggct 720  
gtcagctcca tcatgtagtg tactgcttta tgattgcata tggcaccag cgaacactcg 780  
ccttggaaatc tcacaattgg cgctacgcta ctgggggatg ggaaactgtg tttagacctg 840  
taagtgagac gtgcacagac agatctggca gctccactgg acattggtca ggtgaagtaa 900  
aggacaaaaa tggtcaggtg gttgagctcc ccattgtaga cagtgttcat cctcgtcctc 960  
catatttacc cctggctgtc ccagaagacc ttgcagatcg acttgtaga gtccatgggtg 1020  
atcctgcagt gtggtgggta tcccagtttg tcaagtactt gattcgccca caaccctggc 1080  
tggaaaagga aatagaagag gccaccaaga agctaggctt caaacatcca gttattggag 1140  
tccatgttag acgcacagac aaagtgggag cggaagcagc cttccatccc attgaggaat 1200  
acacggtgca cgttgaagaa gactttcagc ttcttgctcg cagaatgcaa gtggataaaa 1260  
aaagggtgta tttggccaca gatgaccctg ctttggttaa agaggcaaaa acaaagtacc 1320

ccagttatga atttattagt gataactcta tctcttggtc agctggacta cataatcgat 1380  
 atacagaaaa ttcacttcgg ggtgtgatcc tggatataca ctttctctcc caggcagact 1440  
 tcctagtgtg tactttttca tcgcaggtct gtagagttgc ttatgaaatc atgcaagcgc 1500  
 tgcacctga tgcctctgcg aacttcggtt ctttgatga catctactat tttggaggcc 1560  
 caaatgcca caaccaaatt gccatttatc ctcaccaacc tcgaactgaa ggagaaatcc 1620  
 ccatggaacc tggagatatt attggtgtgg ctggaaatca ctgggatggc taccctaaag 1680  
 gtgttaacag aaaactggga aggacgggccc tatatccctc ctacaaagtt cgagagaaga 1740  
 tagaaacagt caagtacccc acatatcccg aggctgacaa gtaaagcttg gacggacaga 1800  
 tgagaaagac aaccaaactc agttcaaacc atttga 1836

<210> 5  
 <211> 575  
 <212> PRT  
 <213> *Cricetulus griseus*

<400> 5  
 Met Arg Ala Trp Thr Gly Ser Trp Arg Trp Ile Met Leu Ile Leu Phe  
 1 5 10 15  
 Ala Trp Gly Thr Leu Leu Phe Tyr Ile Gly Gly His Leu Val Arg Asp  
 20 25 30  
 Asn Asp His Pro Asp His Ser Ser Arg Glu Leu Ser Lys Ile Leu Ala  
 35 40 45  
 Lys Leu Glu Arg Leu Lys Gln Gln Asn Glu Asp Leu Arg Arg Met Ala  
 50 55 60  
 Glu Ser Leu Arg Ile Pro Glu Gly Pro Ile Asp Gln Gly Thr Ala Thr  
 65 70 75 80  
 Gly Arg Val Arg Val Leu Glu Glu Gln Leu Val Lys Ala Lys Glu Gln  
 85 90 95  
 Ile Glu Asn Tyr Lys Lys Gln Ala Arg Asn Asp Leu Gly Lys Asp His  
 100 105 110  
 Glu Ile Leu Arg Arg Arg Ile Glu Asn Gly Ala Lys Glu Leu Trp Phe  
 115 120 125  
 Phe Leu Gln Ser Glu Leu Lys Lys Leu Lys Lys Leu Glu Gly Asn Glu  
 130 135 140  
 Leu Gln Arg His Ala Asp Glu Ile Leu Leu Asp Leu Gly His His Glu  
 145 150 155 160  
 Arg Ser Ile Met Thr Asp Leu Tyr Tyr Leu Ser Gln Thr Asp Gly Ala

	165		170		175
Gly Glu Trp Arg	Glu Lys Glu Ala Lys Asp Leu Thr Glu Leu Val Gln				
	180		185		190
Arg Arg Ile Thr Tyr Leu Gln Asn Pro Lys Asp Cys Ser Lys Ala Arg					
	195		200		205
Lys Leu Val Cys Asn Ile Asn Lys Gly Cys Gly Tyr Gly Cys Gln Leu					
	210		215		220
His His Val Val Tyr Cys Phe Met Ile Ala Tyr Gly Thr Gln Arg Thr					
	225		230		235
Leu Ile Leu Glu Ser Gln Asn Trp Arg Tyr Ala Thr Gly Gly Trp Glu					
	245		250		255
Thr Val Phe Arg Pro Val Ser Glu Thr Cys Thr Asp Arg Ser Gly Leu					
	260		265		270
Ser Thr Gly His Trp Ser Gly Glu Val Lys Asp Lys Asn Val Gln Val					
	275		280		285
Val Glu Leu Pro Ile Val Asp Ser Leu His Pro Arg Pro Pro Tyr Leu					
	290		295		300
Pro Leu Ala Val Pro Glu Asp Leu Ala Asp Arg Leu Leu Arg Val His					
	305		310		315
Gly Asp Pro Ala Val Trp Trp Val Ser Gln Phe Val Lys Tyr Leu Ile					
	325		330		335
Arg Pro Gln Pro Trp Leu Glu Arg Glu Ile Glu Glu Thr Thr Lys Lys					
	340		345		350
Leu Gly Phe Lys His Pro Val Ile Gly Val His Val Arg Arg Thr Asp					
	355		360		365
Lys Val Gly Thr Glu Ala Ala Phe His Pro Ile Glu Glu Tyr Met Val					
	370		375		380
His Val Glu Glu His Phe Gln Leu Leu Glu Arg Arg Met Lys Val Asp					
	385		390		395
Lys Lys Arg Val Tyr Leu Ala Thr Asp Asp Pro Ser Leu Leu Lys Glu					
	405		410		415
Ala Lys Thr Lys Tyr Ser Asn Tyr Glu Phe Ile Ser Asp Asn Ser Ile					
	420		425		430
Ser Trp Ser Ala Gly Leu His Asn Arg Tyr Thr Glu Asn Ser Leu Arg					
	435		440		445
Gly Val Ile Leu Asp Ile His Phe Leu Ser Gln Ala Asp Phe Leu Val					
	450		455		460
Cys Thr Phe Ser Ser Gln Val Cys Arg Val Ala Tyr Glu Ile Met Gln					



465		470		475		480									
Thr	Leu	His	Pro	Asp	Ala	Ser	Ala	Asn	Phe	His	Ser	Leu	Asp	Asp	Ile
				485					490					495	
Tyr	Tyr	Phe	Gly	Gly	Gln	Asn	Ala	His	Asn	Gln	Ile	Ala	Val	Tyr	Pro
			500					505					510		
His	Gln	Pro	Arg	Thr	Lys	Glu	Glu	Ile	Pro	Met	Glu	Pro	Gly	Asp	Ile
		515					520					525			
Ile	Gly	Val	Ala	Gly	Asn	His	Trp	Asn	Gly	Tyr	Ser	Lys	Gly	Val	Asn
	530					535					540				
Arg	Lys	Leu	Gly	Lys	Thr	Gly	Leu	Tyr	Pro	Ser	Tyr	Lys	Val	Arg	Glu
545					550					555					560
Lys	Ile	Glu	Thr	Val	Lys	Tyr	Pro	Thr	Tyr	Pro	Glu	Ala	Glu	Lys	
				565					570					575	

<210> 6  
 <211> 575  
 <212> PRT  
 <213> Mus musculus

<400> 6

Met	Arg	Ala	Trp	Thr	Gly	Ser	Trp	Arg	Trp	Ile	Met	Leu	Ile	Leu	Phe
1				5					10					15	
Ala	Trp	Gly	Thr	Leu	Leu	Phe	Tyr	Ile	Gly	Gly	His	Leu	Val	Arg	Asp
			20					25					30		
Asn	Asp	His	Pro	Asp	His	Ser	Ser	Arg	Glu	Leu	Ser	Lys	Ile	Leu	Ala
		35					40					45			
Lys	Leu	Glu	Arg	Leu	Lys	Gln	Gln	Asn	Glu	Asp	Leu	Arg	Arg	Met	Ala
	50					55					60				
Glu	Ser	Leu	Arg	Ile	Pro	Glu	Gly	Pro	Ile	Asp	Gln	Gly	Thr	Ala	Thr
65				70					75					80	
Gly	Arg	Val	Arg	Val	Leu	Glu	Glu	Gln	Leu	Val	Lys	Ala	Lys	Glu	Gln
				85				90						95	
Ile	Glu	Asn	Tyr	Lys	Lys	Gln	Ala	Arg	Asn	Gly	Leu	Gly	Lys	Asp	His
		100						105					110		
Glu	Ile	Leu	Arg	Arg	Arg	Ile	Glu	Asn	Gly	Ala	Lys	Glu	Leu	Trp	Phe
	115						120					125			
Phe	Leu	Gln	Ser	Glu	Leu	Lys	Lys	Leu	Lys	His	Leu	Glu	Gly	Asn	Glu
	130					135					140				
Leu	Gln	Arg	His	Ala	Asp	Glu	Ile	Leu	Leu	Asp	Leu	Gly	His	His	Glu
145					150					155					160

Arg	Ser	Ile	Met	Thr	Asp	Leu	Tyr	Tyr	Leu	Ser	Gln	Thr	Asp	Gly	Ala	
				165					170					175		
Gly	Asp	Trp	Arg	Glu	Lys	Glu	Ala	Lys	Asp	Leu	Thr	Glu	Leu	Val	Gln	
			180					185					190			
Arg	Arg	Ile	Thr	Tyr	Leu	Gln	Asn	Pro	Lys	Asp	Cys	Ser	Lys	Ala	Arg	
			195				200					205				
Lys	Leu	Val	Cys	Asn	Ile	Asn	Lys	Gly	Cys	Gly	Tyr	Gly	Cys	Gln	Leu	
	210					215					220					
His	His	Val	Val	Tyr	Cys	Phe	Met	Ile	Ala	Tyr	Gly	Thr	Gln	Arg	Thr	
225					230					235					240	
Leu	Ile	Leu	Glu	Ser	Gln	Asn	Trp	Arg	Tyr	Ala	Thr	Gly	Gly	Trp	Glu	
				245					250					255		
Thr	Val	Phe	Arg	Pro	Val	Ser	Glu	Thr	Cys	Thr	Asp	Arg	Ser	Gly	Leu	
			260					265					270			
Ser	Thr	Gly	His	Trp	Ser	Gly	Glu	Val	Asn	Asp	Lys	Asn	Ile	Gln	Val	
		275					280					285				
Val	Glu	Leu	Pro	Ile	Val	Asp	Ser	Leu	His	Pro	Arg	Pro	Pro	Tyr	Leu	
	290					295					300					
Pro	Leu	Ala	Val	Pro	Glu	Asp	Leu	Ala	Asp	Arg	Leu	Leu	Arg	Val	His	
305					310					315					320	
Gly	Asp	Pro	Ala	Val	Trp	Trp	Val	Ser	Gln	Phe	Val	Lys	Tyr	Leu	Ile	
				325					330					335		
Arg	Pro	Gln	Pro	Trp	Leu	Glu	Lys	Glu	Ile	Glu	Glu	Ala	Thr	Lys	Lys	
			340					345					350			
Leu	Gly	Phe	Lys	His	Pro	Val	Ile	Gly	Val	His	Val	Arg	Arg	Thr	Asp	
		355					360					365				
Lys	Val	Gly	Thr	Glu	Ala	Ala	Phe	His	Pro	Ile	Glu	Glu	Tyr	Met	Val	
	370					375					380					
His	Val	Glu	Glu	His	Phe	Gln	Leu	Leu	Ala	Arg	Arg	Met	Gln	Val	Asp	
385					390					395					400	
Lys	Lys	Arg	Val	Tyr	Leu	Ala	Thr	Asp	Asp	Pro	Thr	Leu	Leu	Lys	Glu	
			405						410					415		
Ala	Lys	Thr	Lys	Tyr	Ser	Asn	Tyr	Glu	Phe	Ile	Ser	Asp	Asn	Ser	Ile	
			420					425					430			
Ser	Trp	Ser	Ala	Gly	Leu	His	Asn	Arg	Tyr	Thr	Glu	Asn	Ser	Leu	Arg	
		435					440					445				
Gly	Val	Ile	Leu	Asp	Ile	His	Phe	Leu	Ser	Gln	Ala	Asp	Phe	Leu	Val	
	450					455					460					

Cys Thr Phe Ser Ser Gln Val Cys Arg Val Ala Tyr Glu Ile Met Gln  
 465 470 475 480  
 Thr Leu His Pro Asp Ala Ser Ala Asn Phe His Ser Leu Asp Asp Ile  
 485 490 495  
 Tyr Tyr Phe Gly Gly Gln Asn Ala His Asn Gln Ile Ala Val Tyr Pro  
 500 505 510  
 His Lys Pro Arg Thr Glu Glu Glu Ile Pro Met Glu Pro Gly Asp Ile  
 515 520 525  
 Ile Gly Val Ala Gly Asn His Trp Asp Gly Tyr Ser Lys Gly Ile Asn  
 530 535 540  
 Arg Lys Leu Gly Lys Thr Gly Leu Tyr Pro Ser Tyr Lys Val Arg Glu  
 545 550 555 560  
 Lys Ile Glu Thr Val Lys Tyr Pro Thr Tyr Pro Glu Ala Glu Lys  
 565 570 575

<210> 7  
 <211> 446  
 <212> PRT  
 <213> Homo sapiens

<400> 7  
 Met Ala Ile Thr Val Ser Leu Val Asn Asn Lys Arg Lys Ile Val Val  
 1 5 10 15  
 Leu Ala Gln Pro Thr Thr Val Lys Arg Lys Arg Ile Thr Pro Tyr Lys  
 20 25 30  
 Ser Ile Met Thr Asp Leu Tyr Tyr Leu Ser Gln Thr Asp Gly Ala Gly  
 35 40 45  
 Asp Trp Arg Glu Lys Glu Ala Lys Asp Leu Thr Glu Leu Val Gln Arg  
 50 55 60  
 Arg Ile Thr Tyr Leu Gln Asn Pro Lys Asp Cys Ser Lys Ala Lys Lys  
 65 70 75 80  
 Leu Val Cys Asn Ile Asn Lys Gly Cys Gly Tyr Gly Cys Gln Leu His  
 85 90 95  
 His Val Val Tyr Cys Phe Met Ile Ala Tyr Gly Thr Gln Arg Thr Leu  
 100 105 110  
 Ile Leu Glu Ser Gln Asn Trp Arg Tyr Ala Thr Gly Gly Trp Glu Thr  
 115 120 125  
 Val Phe Arg Pro Val Ser Glu Thr Cys Thr Asp Arg Ser Gly Ile Ser  
 130 135 140  
 Thr Gly His Trp Ser Gly Glu Val Lys Asp Lys Asn Val Gln Val Val

145		150		155		160
Glu Leu Pro Ile Val Asp Ser Leu His Pro Arg Pro Pro Tyr Leu Pro						
	165		170		175	
Leu Ala Val Pro Glu Asp Leu Ala Asp Arg Leu Val Arg Val His Gly						
	180		185		190	
Asp Pro Ala Val Trp Trp Val Ser Gln Phe Val Lys Tyr Leu Ile Arg						
	195		200		205	
Pro Gln Pro Trp Leu Glu Lys Glu Ile Glu Glu Ala Thr Lys Lys Leu						
	210		215		220	
Gly Phe Lys His Pro Val Ile Gly Val His Val Arg Arg Thr Asp Lys						
	225		230		235	240
Val Gly Thr Glu Ala Ala Phe His Pro Ile Glu Glu Tyr Met Val His						
	245		250		255	
Val Glu Glu His Phe Gln Leu Leu Ala Arg Arg Met Gln Val Asp Lys						
	260		265		270	
Lys Arg Val Tyr Leu Ala Thr Asp Asp Pro Ser Leu Leu Lys Glu Ala						
	275		280		285	
Lys Thr Lys Tyr Pro Asn Tyr Glu Phe Ile Ser Asp Asn Ser Ile Ser						
	290		295		300	
Trp Ser Ala Gly Leu His Asn Arg Tyr Thr Glu Asn Ser Leu Arg Gly						
	305		310		315	320
Val Ile Leu Asp Ile His Phe Leu Ser Gln Ala Asp Phe Leu Val Cys						
	325		330		335	
Thr Phe Ser Ser Gln Val Cys Arg Val Ala Tyr Glu Ile Met Gln Thr						
	340		345		350	
Leu His Pro Asp Ala Ser Ala Asn Phe His Ser Leu Asp Asp Ile Tyr						
	355		360		365	
Tyr Phe Gly Gly Gln Asn Ala His Asn Gln Ile Ala Ile Tyr Ala His						
	370		375		380	
Gln Pro Arg Thr Ala Asp Glu Ile Pro Met Glu Pro Gly Asp Ile Ile						
	385		390		395	400
Gly Val Ala Gly Asn His Trp Asp Gly Tyr Ser Lys Gly Val Asn Arg						
	405		410		415	
Lys Leu Gly Arg Thr Gly Leu Tyr Pro Ser Tyr Lys Val Arg Glu Lys						
	420		425		430	
Ile Glu Thr Val Lys Tyr Pro Thr Tyr Pro Glu Ala Glu Lys						
	435		440		445	

<210> 8  
<211> 575  
<212> PRT  
<213> Sus scrofa

<400> 8

Met	Arg	Pro	Trp	Thr	Gly	Ser	Trp	Arg	Trp	Ile	Met	Leu	Ile	Leu	Phe
1				5					10					15	
Ala	Trp	Gly	Thr	Leu	Leu	Phe	Tyr	Ile	Gly	Gly	His	Leu	Val	Arg	Asp
			20					25					30		
Asn	Asp	His	Ser	Asp	His	Ser	Ser	Arg	Glu	Leu	Ser	Lys	Ile	Leu	Ala
		35					40					45			
Lys	Leu	Glu	Arg	Leu	Lys	Gln	Gln	Asn	Glu	Asp	Leu	Arg	Arg	Met	Ala
	50					55					60				
Glu	Ser	Leu	Arg	Ile	Pro	Glu	Gly	Pro	Ile	Asp	Gln	Gly	Pro	Ala	Ser
65					70					75					80
Gly	Arg	Val	Arg	Ala	Leu	Glu	Glu	Gln	Phe	Met	Lys	Ala	Lys	Glu	Gln
				85					90					95	
Ile	Glu	Asn	Tyr	Lys	Lys	Gln	Thr	Lys	Asn	Gly	Pro	Gly	Lys	Asp	His
			100					105					110		
Glu	Ile	Leu	Arg	Arg	Arg	Ile	Glu	Asn	Gly	Ala	Lys	Glu	Leu	Trp	Phe
	115						120					125			
Phe	Leu	Gln	Ser	Glu	Leu	Lys	Lys	Leu	Lys	Asn	Leu	Glu	Gly	Asn	Glu
	130					135					140				
Leu	Gln	Arg	His	Ala	Asp	Glu	Phe	Leu	Ser	Asp	Leu	Gly	His	His	Glu
145					150					155					160
Arg	Ser	Ile	Met	Thr	Asp	Leu	Tyr	Tyr	Leu	Ser	Gln	Thr	Asp	Gly	Ala
				165					170					175	
Gly	Asp	Trp	Arg	Glu	Lys	Glu	Ala	Lys	Asp	Leu	Thr	Glu	Leu	Val	Gln
			180					185					190		
Arg	Arg	Ile	Thr	Tyr	Leu	Gln	Asn	Pro	Lys	Asp	Cys	Ser	Lys	Ala	Lys
		195					200					205			
Lys	Leu	Val	Cys	Asn	Ile	Asn	Lys	Gly	Cys	Gly	Tyr	Gly	Cys	Gln	Leu
	210					215					220				
His	His	Val	Val	Tyr	Cys	Phe	Met	Ile	Ala	Tyr	Gly	Thr	Gln	Arg	Thr
225					230					235					240
Leu	Ala	Leu	Glu	Ser	His	Asn	Trp	Arg	Tyr	Ala	Thr	Gly	Gly	Trp	Glu
				245					250					255	
Thr	Val	Phe	Arg	Pro	Val	Ser	Glu	Thr	Cys	Thr	Asp	Arg	Ser	Gly	Ser
			260					265					270		

Ser	Thr	Gly	His	Trp	Ser	Gly	Glu	Val	Lys	Asp	Lys	Asn	Val	Gln	Val		
		275					280					285					
Val	Glu	Leu	Pro	Ile	Val	Asp	Ser	Val	His	Pro	Arg	Pro	Pro	Tyr	Leu		
	290					295					300						
Pro	Leu	Ala	Val	Pro	Glu	Asp	Leu	Ala	Asp	Arg	Leu	Val	Arg	Val	His		
305					310					315					320		
Gly	Asp	Pro	Ala	Val	Trp	Trp	Val	Ser	Gln	Phe	Val	Lys	Tyr	Leu	Ile		
				325					330					335			
Arg	Pro	Gln	Pro	Trp	Leu	Glu	Lys	Glu	Ile	Glu	Glu	Ala	Thr	Lys	Lys		
			340					345					350				
Leu	Gly	Phe	Lys	His	Pro	Val	Ile	Gly	Val	His	Val	Arg	Arg	Thr	Asp		
	355						360					365					
Lys	Val	Gly	Ala	Glu	Ala	Ala	Phe	His	Pro	Ile	Glu	Glu	Tyr	Thr	Val		
	370					375					380						
His	Val	Glu	Glu	Asp	Phe	Gln	Leu	Leu	Ala	Arg	Arg	Met	Gln	Val	Asp		
385					390					395					400		
Lys	Lys	Arg	Val	Tyr	Leu	Ala	Thr	Asp	Asp	Pro	Ala	Leu	Leu	Lys	Glu		
			405					410						415			
Ala	Lys	Thr	Lys	Tyr	Pro	Ser	Tyr	Glu	Phe	Ile	Ser	Asp	Asn	Ser	Ile		
			420					425					430				
Ser	Trp	Ser	Ala	Gly	Leu	His	Asn	Arg	Tyr	Thr	Glu	Asn	Ser	Leu	Arg		
		435					440					445					
Gly	Val	Ile	Leu	Asp	Ile	His	Phe	Leu	Ser	Gln	Ala	Asp	Phe	Leu	Val		
	450					455					460						
Cys	Thr	Phe	Ser	Ser	Gln	Val	Cys	Arg	Val	Ala	Tyr	Glu	Ile	Met	Gln		
465					470					475					480		
Ala	Leu	His	Pro	Asp	Ala	Ser	Ala	Asn	Phe	Arg	Ser	Leu	Asp	Asp	Ile		
				485					490					495			
Tyr	Tyr	Phe	Gly	Gly	Pro	Asn	Ala	His	Asn	Gln	Ile	Ala	Ile	Tyr	Pro		
			500					505					510				
His	Gln	Pro	Arg	Thr	Glu	Gly	Glu	Ile	Pro	Met	Glu	Pro	Gly	Asp	Ile		
		515					520					525					
Ile	Gly	Val	Ala	Gly	Asn	His	Trp	Asp	Gly	Tyr	Pro	Lys	Gly	Val	Asn		
	530					535					540						
Arg	Lys	Leu	Gly	Arg	Thr	Gly	Leu	Tyr	Pro	Ser	Tyr	Lys	Val	Arg	Glu		
545					550					555					560		
Lys	Ile	Glu	Thr	Val	Lys	Tyr	Pro	Thr	Tyr	Pro	Glu	Ala	Asp	Lys			
				565					570					575			

<210> 9  
<211> 9196  
<212> DNA  
<213> *Cricetulus griseus*

<400> 9  
tctagaccag gctggtctcg aactcacaga gaaccacctg cctctgccac ctgagtgtctg 60  
ggattaaagg tgtgcaccac caccgcccgg cgtaaaatca tttttttgaa tattgtgata 120  
atttacatta taattgtaag taaaaatttt cagcctattt tgttatacat ttttgcgtaa 180  
attattcttt tttgaaagtt ttgttgtcca taatagtcta gggaaacata aagttataat 240  
ttttgtctat gtatttgcac atatatctat ttaatctcct aatgtccagg aaataaatag 300  
ggtatgtaat agcttcaaca tgtggtatga tagaattttt cagtgtctata taagttgtta 360  
cagcaaagtg ttattaattc atatgtccat atttcaattt tttatgaatt attaaattga 420  
atccttaagc tgccagaact agaattttat tttaatcagg aagccccaaa tctgttcatt 480  
ctttctatat atgtggaaag gtaggcctca ctaactgatt cttcacctgt tttagaacat 540  
ggccaagaa tggagttatg taaggggaat tacaagtgtg agaaaactcc tagaaaacaa 600  
gatgagtctt gtgaccttag tttcttttaa aacacaaaat tcttggaatg tgttttcatg 660  
ttcctcccag gtggatagga gtgagtttat ttcagattat ttattacaac tggctgttgt 720  
tacttgtttc tatgtcttta tagaaaaaca tttttttttt gccacatgca gcttgtcctt 780  
atgattttat acttgtgtga ctcttaactc tcagagtata aattgtctga tgctatgaat 840  
aaagttggct attgtatgag acttcagccc acttcaatta ttggcttcat tctctcagat 900  
cccaccacct ccagagtggc aaacaacttg aaccattaaa cagactttag tctttatttg 960  
aatgatagat ggggatatca gatttatagg cacagggttt tgagaaaggg agaaggtaaa 1020  
cagtagagtt taacaacaac aaaaagtata ctttgtaaac gtaaaactat ttattaaagt 1080  
agtagacaag acattaaata ttccttgga ttagtgcttt ttgaattttg ctttcaaata 1140  
atagtcagtg agtatacccc tccccattc tatatttttag cagaaatcag aataaatggc 1200  
gtttctggta cattcttttg tagagaattt attttctttg ggtttttgtg catttaaagt 1260  
caataaaaat taaggttcag taatagaaaa aaaactctga tttttggaat cccctttctt 1320  
cagcttttct atttaatctc ttaatgataa ttttaattgt ggccatgtgg tcaaagtata 1380  
tagccttgta tatgtaaatg ttttaaccaa cctgccttta cagtaactat ataattttat 1440  
tctataatat atgacttttc ttccatagct ttagagttgc ccagtcactt taagttacat 1500

tttcatatat gttctttgtg ggaggagata attttatttc taagagaatc ctaagcatatc 1560  
tgattgagaa atggcaaaca aaacacataa ttaaagctga taaagaacga acatttggag 1620  
tttaaaatac atagccaccc taagggttta actggttgta gccttctttt ggaattttta 1680  
ttagttcata tagaaaaatg gattttatcg tgacatttcc atatatgtat ataatatatt 1740  
tacatcatat ccacctgtaa ttattagtgt ttttaaatat atttgaaaaa ataatggtct 1800  
ggtttgatcc atttgaacct tttgatgttt ggtgtggttg ccaattgggt gatggttatg 1860  
ataacctttg cttctctaag gttcaagtca gtttgagaat atgtcctcta aaaatgacag 1920  
gttgcaagtt aagtagtgag atgacagcga gatggagtga tgagaatttg tagaaatgaa 1980  
ttcacttata ctgagaactt gttttgcttt tagataatga acatattagc ctgaagtaca 2040  
tagccgaatt gattaattat tcaaagatat aatcttttaa tccctataaa agaggtatta 2100  
cacaacaatt caagaaagat agaattagac ttccagtatt ggagtgaacc atttgttatc 2160  
aggtagaacc ctaacgtgtg tgggtgactt aaagtgttta ctttttacct gatactgggt 2220  
agctaattgt ctttcagcct cctggccaaa gataccatga aagtcaactt acgttggtatt 2280  
ctatatctca aacaactcag ggtgtttctt actctttcca cagcatgtag agcccaggaa 2340  
gcacaggaca agaaagctgc ctcttggtat caccaggaag atctttttgt aagagtcatc 2400  
acagtatacc agagagacta attttgtctg aagcatcatg tgttgaaaca acagaaactt 2460  
attttcctgt gtggctaact agaaccagag tacaatgttt ccaattcttt gagctccgag 2520  
aagacagaag ggagttgaaa ctctgaaaat gcgggcatgg actggttcct ggcgttggt 2580  
tatgctcatt ctttttgctt gggggacctt attgttttat ataggtggtc atttggttcg 2640  
agataatgac caccctgacc attctagcag agaactctcc aagattcttg caaagctgga 2700  
gcgcttaaaa caacaaaatg aagacttgag gagaatggct gagtctctcc ggtaggtttg 2760  
aaatactcaa ggatttgatg aaatactgtg cttgaccttt aggtataggg tctcagtctg 2820  
ctgttgaaaa atataatttc tacaaaccgt ctttgtaaaa ttttaagtat tgtagcagac 2880  
tttttaaaag tcagtgatac atctatatag tcaatatagg ttacatagt tgcaatctta 2940  
ttttgcatat gaatcagtat atagaagcag tggcatttat atgcttatgt tgcatttaca 3000  
attatgttta gacgaacaca aactttatgt gatttggatt agtgctcatt aaattttttt 3060  
attctatgga ctacaacaga gacataaatt ttgaaaggct tagttactct taaattctta 3120  
tgatgaaaag caaaaattca ttgttaaata gaacagtgc tccggaatgt gggtaattat 3180



tgccatattt ctagtctact aaaaattgtg gcataactgt tcaaagtcac cagttgtttg 3240  
gaaagccaaa gtctgattta aatggaaaac ataaacaatg atatctattt ctagatacct 3300  
ttaacttgca gttactgagt ttacaagttg tctgacaact ttggattctc ttacttcata 3360  
tctaagaatg atcatgtgta cagtgccttac tgtcacttta aaaaactgca gggctagaca 3420  
tgcagatatg aagactttga cattagatgt ggtaattggc actaccagca agtgggatta 3480  
agatacagct gaatatatta ctttttgagg aacataattc atgaatggaa agtggagcat 3540  
tagagaggat gccttctggc tctccacac cactgtttgc atccattgca tttcacactg 3600  
cttttagaac tcagatgttt catatggtat attgtgtaac tcaccatcag ttttatcttt 3660  
aaatgtctat ggatgataat gttgtatgtt aacactttta caaaaacaaa tgaagccata 3720  
tcctcgggtg gagttgtgat ggtggtaatt gtcacaatag gattattcag caaggaacta 3780  
agtcagggac aagaagtggg cgatactttg ttggattaaa tcattttact ggaagtccat 3840  
cagggagggt tatgaaagtt gtggtctttg aactgaaatt atatgtgatt cattattctt 3900  
gatttaggcc ttgctaatag taactatcat ttattgggaa tttgtcatat gtgccaat 3960  
gtcatgggcc agacagcgtg ttttactgaa tttctagata tctttatgag attctagtac 4020  
tgttttcagc cattttacag atgaagaatc ttaaaaaatg ttaaataatt tagtttgccc 4080  
aagattatac gttaacaaat ggtagaacct tctttgaatt ctggcagtat ggctacacag 4140  
tccgaactct tatcttccta agctgaaaac agaaaaagca atgaccaga aaattttatt 4200  
taaaagtctc aggagagact tcccatcctg agaagatctc ttttcccttt tataatttag 4260  
gtcctgaat aatcactgaa ttttctccat gttccatcta tagtactgtt atttctgttt 4320  
tccttttttc ttaccacaaa gtatcttggt tttgctgtat gaaagaaaat gtgttattgt 4380  
aatgtgaaat tctctgtccc tgcaggggtcc cacatccgcc tcaatcccaa ataaacacac 4440  
agaggctgta ttaattatga aactgttggc cagttggcta gggcttctta ttggctagct 4500  
ctgtcttaat tattaacca taactactat tgtaagtatt tccatgtggc cttatcttac 4560  
caaggaaagg gtccaggac ctcttactcc tctggcgtgt tggcagtga gaggagagag 4620  
cgatttccta tttgtctctg cttattttct gattctgctc agctatgtca cttcctgcct 4680  
ggccaatcag ccaatcagt ttttattcat tagccaataa aagaaacatt tacacagaag 4740  
gacttcccc atcatgttat ttgtatgagt tcttcagaaa atcatagtat cttttaatac 4800  
taatttttat aaaaaattaa ttgtattgaa aattatgtgt atatgtgtct gtgtgtcgat 4860  
ttgtgctcat aagtagcatg gagtgcagaa gagggaaatc gatctttttt taagggacaa 4920

agagtttatt cagattacat ttttaaggtga taatgtatga ttgcaagggt atcaacatgg 4980  
cagaaatgtg aagaagctgg tcacattaca tccagagtca agagtagaga gcaatgaatt 5040  
gatgcatgca ttctgtgct cagctcactt ttctgggagc tgagctgatt gtaagccatc 5100  
tgatgtcttt gctgggaact aactcaaagg caagttcaaa acctgttctt aagtataagc 5160  
catctctcca gtccctcata tgggtctctta agacactttc tttatattct tgtacataga 5220  
aattgaattc ctaacaactg cattcaaatt acaaaatagt ttttaaagc tgatataata 5280  
aatgtaaata caatctagaa catTTTTata aataagcata ttaactcagt aaaaataaat 5340  
gcatgggttat tttcttcat tagggaagta tgtctcccca ggctgttctc tagattctac 5400  
tagtaatgct gtttgtacac catccacagg ggttttattt taaagctaag acatgaatga 5460  
tggacatgct tgtttagcatt tagactTTTT tcttactat aattgagcta gtatttttgt 5520  
gctcagtttg atatctgtta attcagataa atgtaatagt aggtaatttc tttgtgataa 5580  
aggcatataa attgaagttg gaaaacaaaa gcctgaaatg acagttttta agattcagaa 5640  
caataatttt caaaagcagt tacccaactt tccaaataca atctgcagtt ttcttgatat 5700  
gtgataaatt tagacaaaga aatagcacat tttaaaatag ctatttactc ttgatttttt 5760  
tttcaaattt aggctagttc actagttgtg tgtaagggtta tggctgcaa catctttgac 5820  
tcttggttag ggaatccagg atgatttacg tgtttggcca aaatcttggt ccattctggg 5880  
tttcttctct atctaggtag ctagcacaaag ttaaagggtg ggtagtattg gaaggctctc 5940  
aggatatatat ttctatatte tgtatttttt tctctgtca tatatttgct ttctgtttta 6000  
ttgatttcta ctgttagttt gatacttact ttcttacct ttctttggga tttattttgc 6060  
tgttctaaga tttcttagca agttcatatc actgatttta acagttgctt cttttgtaat 6120  
atagactgaa tgcccccttat ttgaaatgct tgggatcaga aactcagatt tgaacttttc 6180  
ttttttaata tttccatcaa gtttaccagc tgaatgtcct gatccaagaa tatgaaatct 6240  
gaaatgcttt gaaatctgaa acttttagag tgataaagct tccctttaa ttaatttggtg 6300  
ttctatatatt tttgacaatg tcaacctttc attgttatcc aatgagtga catattttca 6360  
atttttttgt ttgatctggt atattttgat ctgaccatat ttataaaatt ttatttaatt 6420  
tgaatgttgt gctgttactt atctttatta ttatttttgc ttattttcta gccaaatgaa 6480  
attatattct gtattatttt agtttgaatt ttactttgtg gcttagtaac tgccttttgt 6540  
tggatgaatgc ttaagaaaaa cgtgtggtct actgatattg gttctaattct tatatagcat 6600

gttgtttgtt aggtagtga ttatgctggt cagattgtct tgagtttatg caaatgtaaa 6660  
atatttagat gcttgttttg ttgtctaaga acaaagtatg cttgctgtct cctatcggtt 6720  
ctggtttttc cattcatctc ttcaagctgt tttgtgtgtt gaatactaac tccgtactat 6780  
cttgttttct gtgaattaac cccctttcaa aggtttcttt tctttttttt ttttaaggac 6840  
aacaagttta ttcagattac attttaagct gataatgtat gattgcaagg ttatcaacat 6900  
ggcagaaatg tgaagaagct aggcacatta catccacatg gagtcaagag cagagagcag 6960  
tgaattaatg catgcattcc tgtggtcagc tcaactttcc tattcttaga tagtctagga 7020  
tcataaacct ggggaatagt gctaccacaa tgggcatatc cacttacttc agttcatgca 7080  
atcaaccaag gcacatccac aggaaaaact gatttagaca acctctcatt gagactcttc 7140  
ccagatgatt agactgtgtc aagttgacaa ttaaaactat cacacctgaa gccatcacta 7200  
gtaaatataa tgaaaatgtt gattatcacc ataattcatc tgtatccctt tgttattgta 7260  
gattttgtga agttcctatt caagtccctg ttccttcctt aaaaacctgt tttttagtta 7320  
aatagggttt ttagtggtcc tgtctgtaaa tactttttta aagttagata ttattttcaa 7380  
gtatgttctc ccagtctttg gcttgtatth tcatcccttc aatacatata tttttgtaat 7440  
ttattttttt tatttaaatt agaaacaaag ctgcttttac atgtcagtct cagttccctc 7500  
tccctccctc cctccctgc tccccaccta agccccaatt ccaactcctt tcttctcccc 7560  
aggaaggggtg aggccctcca tgggggaaat cttcaatgtc tgtcatatca tttggagcag 7620  
ggcctagacc ctccccagtg tgtctaggt gagagagtat cctctatgt ggagagggct 7680  
cccaaagttc atttgtgtac taggggtaaa tactgatcca ctatcagtgg ccccatagat 7740  
tgtccggacc tccaaactga ctctctcctt cagggagtct ggaacagttc tatgctgggt 7800  
tcccagatat cagtctgggg tccatgagca accccttggt caggtcagtt gtttctgtag 7860  
gtttccccag cccggtcttg acccctttgc tcatcacttc tccctctctg caactggatt 7920  
ccagagttca gctcagtgt tagctgtggg tgtctgcac tgcctccatc agctactgga 7980  
tgagggctct aggatggcat ataaggtagt catcagtctc attatcagag aagggctttt 8040  
aaggtagcct cttgattatt gcttagattg ttagttgggg tcaaccttgt aggtctctgg 8100  
acagtgacag aattctcttt aaacctataa tggctccctc tgtgggtgga tcccttttct 8160  
tgcctctcac cgcttctccc ctgactagat ctctctgctc cctcatgtcc tctctcccc 8220  
tcccttctc ccttctctt tcttctaact cctctcccc tccacccacg atccccatta 8280  
gcttatgaga tcttgtcctt attttagcaa aaccttttg gctataaaat taattaattt 8340

aatatgctta tatcagggttt attttggcta gtatttgtat gtgtttgggt agtggttttta 8400  
accttaattg acatgtatcc ttatathtag acacagattt aaatatttga agtttttttt 8460  
tttttttttt ttaaagattt atttattttt tatgtcttct gcctgcatgc cagaagaggg 8520  
caccagatct cattcaagggt gggtgtgagc caccatgtgg ttgctgggaa ttgaactcag 8580  
gacctctgga agaacagtca gtgctcttaa ccgctgagcc atctctccag cccctgaagt 8640  
gtttctttta aagaggatag cagtgcacaa tttttccctt tgaccaatga ctctacctt 8700  
actgaattgt tttagccatt tatatgtaat gctgttacca gggttacatt ttcttttatt 8760  
ttgctaaaatt tcttccctgt ttgtctcatc tcttattttt gtctgttgga ttatataggc 8820  
ttttattttt ctgtttttac agtaagttat atcaaattaa aattatttta tggaatgggt 8880  
gtgttgacta catgtatgtc tgtgcaccat gtgctgacct ggtcttgagg agaagaagg 8940  
gtcatattct ctgaaactgg tattgtggat gttacgaact gccatagggt gctaggaatc 9000  
aaaccccagc tcctctggaa aagcagccac tgctctgagc cactgagtc tctcttcaag 9060  
caggtgatgc caacttttaa tggttaccag tggataagag tgcttgatc tctagcacc 9120  
atgaaaattt atgcattgct atatgggctt gtcacttcag cattgtgtga cagagacagg 9180  
aggatcccaa gagctc 9196

<210> 10  
<211> 28  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic DNA

<400> 10  
gagacttcag cccacttcaa ttattggc 28

<210> 11  
<211> 25  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic DNA

<400> 11  
cttgtgtgac tcttaactct cagag 25

<210> 12

<211> 25  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Description of Artificial Sequence: Synthetic DNA  
  
 <400> 12  
 gaggccactt gtgtagcgcc aagtg 25  
  
 <210> 13  
 <211> 23  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Description of Artificial Sequence: Synthetic DNA  
  
 <400> 13  
 ccctcgagat aacttcgtat agc 23  
  
 <210> 14  
 <211> 18  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Description of Artificial Sequence : Synthetic DNA  
  
 <400> 14  
 ggtaggcctc actaactg 18  
  
 <210> 15  
 <211> 25  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Description of Artificial Sequence : Synthetic DNA  
  
 <400> 15  
 catagaaaca agtaacaaca gccag 25  
  
 <210> 16  
 <211> 21  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Description of Artificial Sequence: Synthetic DNA  
  
 <400> 16  
 gtgagtccat ggctgtcact g 21

<210> 17  
 <211> 20  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic DNA

<400> 17  
 cctgacttgg ctattctcag 20

<210> 18  
 <211> 384  
 <212> DNA  
 <213> Mus musculus

<400> 18  
 atg gat ttt cag gtg cag att atc agc ttc ctg cta atc agt gct tca 48  
 Met Asp Phe Gln Val Gln Ile Ile Ser Phe Leu Leu Ile Ser Ala Ser  
 1 5 10 15  
 gtc ata atg tcc aga gga caa att gtt ctc tcc cag tct cca gca atc 96  
 Val Ile Met Ser Arg Gly Gln Ile Val Leu Ser Gln Ser Pro Ala Ile  
 20 25 30  
 ctg tct gca tct cca ggg gag aag gtc aca atg act tgc agg gcc agc 144  
 Leu Ser Ala Ser Pro Gly Glu Lys Val Thr Met Thr Cys Arg Ala Ser  
 35 40 45  
 tca agt gta agt tac atc cac tgg ttc cag cag aag cca gga tcc tcc 192  
 Ser Ser Val Ser Tyr Ile His Trp Phe Gln Gln Lys Pro Gly Ser Ser  
 50 55 60  
 ccc aaa ccc tgg att tat gcc aca tcc aac ctg gct tct gga gtc cct 240  
 Pro Lys Pro Trp Ile Tyr Ala Thr Ser Asn Leu Ala Ser Gly Val Pro  
 65 70 75 80  
 gtt cgc ttc agt ggc agt ggg tct ggg act tct tac tct ctc acc atc 288  
 Val Arg Phe Ser Gly Ser Gly Ser Gly Thr Ser Tyr Ser Leu Thr Ile  
 85 90 95  
 agc aga gtg gag gct gaa gat gct gcc act tat tac tgc cag cag tgg 336  
 Ser Arg Val Glu Ala Glu Asp Ala Ala Thr Tyr Tyr Cys Gln Gln Trp  
 100 105 110  
 act agt aac cca ccc acg ttc gga ggg ggg acc aag ctg gaa atc aaa 384  
 Thr Ser Asn Pro Pro Thr Phe Gly Gly Gly Thr Lys Leu Glu Ile Lys  
 115 120 125

<210> 19  
 <211> 420  
 <212> DNA  
 <213> Mus musculus

<400> 19  
 atg ggt tgg agc ctc atc ttg ctc ttc ctt gtc gct gtt gct acg cgt 48  
 Met Gly Trp Ser Leu Ile Leu Leu Phe Leu Val Ala Val Ala Thr Arg  
 1 5 10 15  
 gtc ctg tcc cag gta caa ctg cag cag cct ggg gct gag ctg gtg aag 96  
 Val Leu Ser Gln Val Gln Leu Gln Gln Pro Gly Ala Glu Leu Val Lys

	20	25	30	
cct ggg gcc tca gtg aag atg tcc tgc aag gct tct ggc tac aca ttt				144
Pro Gly Ala Ser Val Lys Met Ser Cys Lys Ala Ser Gly Tyr Thr Phe				
	35	40	45	
acc agt tac aat atg cac tgg gta aaa cag aca cct ggt cgg ggc ctg				192
Thr Ser Tyr Asn Met His Trp Val Lys Gln Thr Pro Gly Arg Gly Leu				
	50	55	60	
gaa tgg att gga gct att tat ccc gga aat ggt gat act tcc tac aat				240
Glu Trp Ile Gly Ala Ile Tyr Pro Gly Asn Gly Asp Thr Ser Tyr Asn				
	65	70	75	80
cag aag ttc aaa ggc aag gcc aca ttg act gca gac aaa tcc tcc agc				288
Gln Lys Phe Lys Gly Lys Ala Thr Leu Thr Ala Asp Lys Ser Ser Ser				
	85	90	95	
aca gcc tac atg cag ctc agc agc ctg aca tct gag gac tct gcg gtc				336
Thr Ala Tyr Met Gln Leu Ser Ser Leu Thr Ser Glu Asp Ser Ala Val				
	100	105	110	
tat tac tgt gca aga tcg act tac tac ggc ggt gac tgg tac ttc aat				384
Tyr Tyr Cys Ala Arg Ser Thr Tyr Tyr Gly Gly Asp Trp Tyr Phe Asn				
	115	120	125	
gtc tgg ggc gca ggg acc acg gtc acc gtc tct gca				420
Val Trp Gly Ala Gly Thr Thr Val Thr Val Ser Ala				
	130	135	140	

<210> 20  
 <211> 91  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic DNA

<400> 20  
 caggaaacag ctatgacgaa ttgcgctcct caaaatggat tttcaggtgc agattatcag 60  
 cttcctgcta atcagtgcctt cagtcataat g 91

<210> 21  
 <211> 91  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic DNA

<400> 21  
 gtgaccttct cccctggaga tgcagacagg attgctggag actgggagag aacaatttgt 60  
 cctctggaca ttatgactga agcactgatt a 91

<210> 22  
 <211> 90  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic DNA

<400> 22  
ctccagggga gaaggtcaca atgacttgca gggccagctc aagtgttaagt tacatccact 60  
ggttccagca gaagccagga tcctcccca 90

<210> 23  
<211> 89  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic DNA

<400> 23  
ccagaccac tgccactgaa gcgaacaggg actccagaag ccagggttga tgtggcataa 60  
atccagggtt tgggggagga tcctggctt 89

<210> 24  
<211> 91  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic DNA

<400> 24  
tcagtggcag tgggtctggg acttcttact ctctcaccat cagcagagtg gaggctgaag 60  
atgctgccac ttattactgc cagcagtga c 91

<210> 25  
<211> 90  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic DNA

<400> 25  
gttttcccag tcacgaccgt acgtttgatt tccagcttgg tccccctcc gaacgtgggt 60  
gggttactag tccactgctg gcagtaataa 90

<210> 26  
<211> 99  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic DNA

<400> 26  
caggaaacag ctatgacgcg gccgcgaccc ctccaccatgg gttggagcct catcttgctc 60  
ttccttgctg ctgttgctac gcgtgtcctg tcccaggta 99



<210> 27  
<211> 98  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic DNA

<400> 27  
atgtgtagcc agaagccttg caggacatct tctactgaggc cccagccttc accagctcag 60  
ccccaggctg ctgcagttgt acctgggaca ggacacgc 98

<210> 28  
<211> 97  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic DNA

<400> 28  
caaggcttct ggctacacat ttaccagtta caatatgcac tgggtaaaac agacacctgg 60  
tcggggcctg gaatggattg gagctattta tcccga 97

<210> 29  
<211> 99  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic DNA

<400> 29  
gtaggctgtg ctggaggatt tgtctgcagt caatgtggcc ttgcctttga acttctgatt 60  
gtaggaagta tcaccatttc cgggataaat agctccaat 99

<210> 30  
<211> 99  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic DNA

<400> 30  
aatcctccag cacagcctac atgcagctca gcagcctgac atctgaggac tctgcggtct 60  
attactgtgc aagatcgact tactacggcg gtgactggt 99

<210> 31  
<211> 98

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic DNA

<400> 31

gttttcccag tcacgacggg cccttggtgg aggctgcaga gacggtgacc gtggtccctg 60  
cgccccagac attgaagtac cagtcaccgc cgtagtaa 98

<210> 32

<211> 25

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic DNA

<400> 32

gagctggtga agcctggggc ctcag 25